

n79 High Reliability 23dBm Digital RF Mini Repeater

Model No: MRD-4500-20W70



Features:

- **5G Off-the-Air Digital Repeater** for **TDD n79 band**, enabling fast and efficient 5G deployment.
- **Precise Sync:** Built-in **Synchronous Detection Module (SDM)** ensures accurate timing with the donor BTS.
- **NSA/SA Support:** Compatible with both **Non-Standalone** and **Standalone** 5G networks.
- **SDR Architecture:** Integrated **digital SDR** allows dynamic sub-band control for optimized performance.
- **Auto TDD Sync:** Supports automatic network search, cell detection, and signaling processing.
- **Smart ALC:** Maintains stable output power via **Automatic Level Control**.
- **IMOP:** Built-in **Isolation Measurement and Oscillation Protection** with automatic antenna isolation testing.
- **Easy Setup:** External **AC-DC adapter** with optional **IP30 enclosure** for rugged environments.
- **Remote Management:** **RJ45 port** for local/laptop control and **IP-based NMS** for remote monitoring and alerts.
- **Optional:** **MIL-STD-810G** rugged design for harsh conditions

Introduction

The **EMTS 20 dBm n79 Digital Mini Repeater** is a compact, cost-effective solution for enhancing indoor 5G coverage in areas with poor signal. It amplifies and retransmits 5G signals between the **BTS** and mobile users, improving connectivity in weak or blind spots.

Designed for **quick deployment** and **ETSI-compliant**, it supports **TDD 5G NR**, with advanced **synchronization** and **IMOP** for safe and stable operation. Ideal for operators needing efficient indoor coverage with minimal infrastructure.



EMTS Telecom Services offers a comprehensive portfolio of enhanced coverage solutions for the Wireless Networks. Based on advanced technologies. EMTS proven, indoor and outdoor solutions solve a wide range of network challenges including interference and oscillation problems, challenging coverage holes, rapid response deployment and inadequate in-building coverage. Regardless of the technology or frequency, EMTS can provide customized coverage solutions that address any combination of unique and complex network needs for the Wireless Networks.

Specifications

Electrical Specifications		
Frequency Range	Uplink	4400–5000 MHz (adjustable)
	Downlink	4400–5000 MHz (adjustable)
Number of Sub-bands		1
Bandwidth per Sub-band		5 - 100MHz (adjustable)
Max. Gain	Uplink	75±2 dB
	Downlink	75±2 dB
Manual Gain Control		25 dB in step of 1 dB
Automatic Gain Control		≥ 25 dB
Gain Flatness (per sub-band)		≤ 5 dB
Max. Input Power Without Damage		0 dBm
Output Power	Uplink	20±2 dBm
	Downlink	20±2 dBm
Out of Band Gain	2.5≤f_offset_CW< 5.0 MHz	≤60 dB
	5.0≤f_offset_CW<10.0 MHz	≤45 dB
	10.0 MHz≤f_offset_CW	≤35 dB
Spurious Emission	9KHz-1GHz	≤ -36 dBm
	1GHz-12.75GHz	≤ -30 dBm
ACRR	±20/100MHz	≤-36dBc/30KHz
	±40/200MHz	≤-40dBc/30KHz
EVM		≤ 3.5%
Frequency Stability		≤ ±0.01 ppm
Noise Figure		≤ 8 dB @ Max. Gain
VSWR		≤ 2.5
System Delay		≤ 5 μs



About EMTS Telecom Services Ltd.:

EMTS is a leading supplier of high-quality RF coverage solutions designed to maximize wireless network coverage in difficult RF environments and complex settings. The company specializes in extending RF radio coverage to rural areas, office buildings, subways, tunnels and shadowed areas. The EMTS coverage solution supports all major mobile technologies and standards of wireless Networks.

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Note: All specifications subject to change without notice.

Mechanical & Environmental Specifications

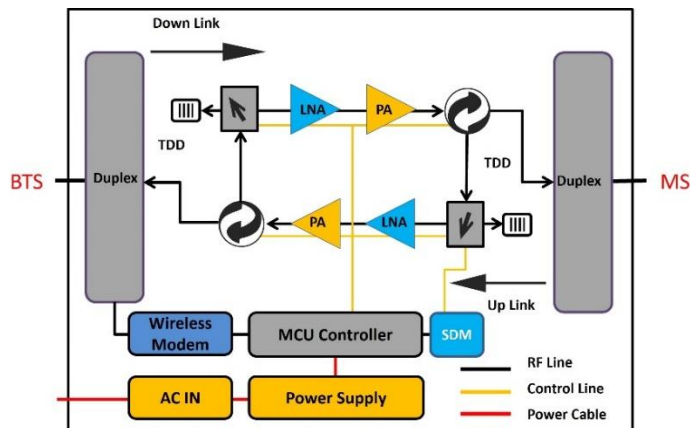
RF Connector	N-Female
Impedance	50 Ω
Power Supply	Input: AC 100-240 V, 50/ 60Hz/Output: DC 12 V/ 3 A
Power Consumption	≤ 45 W
Dimensions	205*155*49mm
Weight	≤ 3.0 kgs
IP Rating	IP30
Operating Temperature	0 °C to 55 °C

Monitoring

NMS	Local	Via USB Type-C
	Remote	Via Cloud-based NMS (optional)

Certification and standards

Standard	Comply with CE and ETSI Standards: Safety: EN 60950 EMC : ETSI 301 489-50, ETSI 301 489-1, Radio: ETSI 301 908-11, ETSI 301 908-15 and ETSI TS 136 106 V15.0.0 / ETSI TS 136 143 V15.0.0
CE	CE comply



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